

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

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# PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year)

**30-11-2004**

Applicant's or agent's file reference

**109846**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/NO 2004/000235**

International filing date (day/month/year)

**04.08.2004**

Priority date (day/month/year)

**04.08.2003**

International Patent Classification (IPC) or both national classification and IPC

**F24B 5/02, F23L 9/02**

Applicant

**HUSTAD Johan Binar**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
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International application No.

PCT/NO 2004/000235

**Box No. I**      **Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language, \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1 - 4</u>	YES
	Claims	<u></u>	NO
Inventive step (IS)	Claims	<u></u>	YES
	Claims	<u>1 - 4</u>	NO
Industrial applicability (IA)	Claims	<u>1 - 4</u>	YES
	Claims	<u></u>	NO

2. Citations and explanations:

The invention concerns a mountable afterburner for a stove arranged to supply preheated secondary air above the combustion zone. The object of the invention is to reduce emissions from a stove.

The most relevant documents cited in the International Search Report:

D1: NO, 63947  
D2: EP, 0 464 293, A1  
D3: FR, 2 626 063, A1

Document D1 is considered to represent the closest prior art. D1 describes a stove arranged with a burn plate (15) at a distance from the back wall (7) of the stove (figure 1). Secondary air flows through an opening (17) and is preheated in the channel (16) before it enters the combustion chamber (1) through secondary air nozzles (19) arranged at the upper part of the plate (15). D1 aims to reduce the emissions from the stove.

D2 discloses a similar stove with a plate (17) at a distance from a back wall (18) of the stove (figure 1). Secondary air flows through an opening (20) and is preheated between the plate (17) and the back wall (18) before it enters the combustion chamber (4) through openings (21) in the plate (17). Also D2 aims to reduce the emissions from the stove.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawing or on the question whether the claim are fully supported by the description, are made:

As explained below, some of the features in the apparatus claim 1 relate to a method of using the apparatus rather than clearly defining the apparatus in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.

Claim 1 is characterised in that the plate is arranged to be installed into an existing oven. This is not a feature defining the apparatus per se. In fact, the apparatus is only defined as being a folded and perforated plate.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: BOX V

It is thus known to reduce emissions from a stove by arranging an afterburner to supply preheated secondary air to the combustion chamber. D1 and D2 disclose such an arrangement in the form of a perforated plate member which together with a stove wall defines an air channel.

The invention according to claim 1 differs from the device in D1, and D2, in that it is arranged to be mountable into an existing stove. The plate member of D1, and D2, appears to be an integrated part of the oven.

Due to this feature, it is achieved that an afterburner device can be installed into an existing stove, whereby older stoves can be upgraded and thus become more environment friendly.

Consequently, with the background of D1, the problem is to produce an afterburner device that is mountable into an existing stove.

A solution to this problem is known from document D3, which describes an afterburner device in the form of a plate (53) installed to the back wall (19) of the stove (1) (figure 1). The plate (53) is fastened with detachable fastening member (56) and distanced from the back wall (19) by spacers (54) to create an air channel for the secondary air (page 6, line 17 - page 7, line 3). D3, thus, disclose the possibility of installing a detachable plate functioning as an afterburner device into an oven.

Consequently, the person skilled in the art, having the device known from D1, or D2, as a starting point, aiming to solve the identified problem, would with the knowledge of D3 be able to modify existing stoves just by later installing an afterburner device such as those described in D1 and D2, and thus arrive at the invention according to claim 1. Since D1 and D2 both relate to the same technical field and no unexpected effect is obtained, the combination of what is known from D1 and D2 is considered obvious for a person skilled in the art.

Therefore, the subject-matter defined in claims 1-4 does not involve an inventive step.